

REMARKS

In the Office Action dated February 24, 2004, the Examiner rejected claims 1-14 and 21-26 under 35 U.S.C. § 102 as being anticipated by *Benenati* (U.S. Patent No. 5,227,179). Moreover, the Examiner made this rejection in the Office Action "final." For the reasons given below, Applicant respectfully submits that *Benenati* does not disclose, teach, or even suggest the presently claimed invention, and that the rejection of the claims should not have been made "final."

Benenati discloses the assembling of a manifold built from a plurality of modular components. The modular manifold constructed by *Benenati's* assembly process results in a complex, multi-part, interlocking structure. As stated in *Benenati*, the individual manifold components used to build the modular manifold may be taken from inventory. As known in the art, however, the multi-part, interlocking manifolds made from these modular components are prone to leaking at their various joints, and thus do not provide adequate manifold structure for many types of hot runner systems.

In stark contrast to the multi-part, interlocking manifolds disclosed by *Benenati*, unitary manifolds do not have these joints and their associated leaking, and therefore are much more reliable for many hot runner systems. Unlike *Benenati's* multi-part, interlocking manifolds, as well known in the hot runner industry, "unitary" manifolds are comprised of undivided, whole manifold plates that form a complete unit not made from separate components. This construction of "unitary" is also fully supported by Merriam-Webster's Online dictionary, which defines "unitary" as "having the character of a unit: **UNDIVIDED, WHOLE.**" *Benenati* itself even abides by this same definition of

"unitary" when describing the differences between unitary manifolds and interlocking modular manifolds. Indeed, *Benenati* clearly distinguishes its multi-part interlocking modular manifolds from unitary manifold plates (referred to as "blocks of steel"), and teaches away from such unitary manifolds. As stated in *Benenati*:

Manifolds have been made of a block of steel that is bored to provide the passages for the molding material. The manifold is heated by electric heating elements in grooves in the manifold's steel block. ***The unitary block of steel*** securely contains the fluid in the manifold's passages, despite pressures of perhaps two thousand pounds per square inch. Where the passages extend from the bores of the manifold into the manifold's nozzles, the abutting surfaces of the parts are made flat with high precision and securely clamped together to prevent leaks. ***The same care in avoiding leaks must be observed where two or more blocks are combined in a manifold.***

* * * *

An object of the invention is to provide a novel heated manifold which can be produced economically and quickly. More particularly, an object of the invention is to provide ***a novel manifold that can be assembled of interlocking prefabricated standardized components requiring only minor machining.***

Benenati, col. 1, lns. 31-42 and 61-66.

Modular manifolds made by assembling several identical manifold components to a central manifold component have been known for years. A person skilled in the art would know, however, that modular manifolds and unitary manifolds are two very different types of manifolds that serve different purposes and are structurally distinct. Indeed, *Benenati* has to provide many more manufacturing steps to manufacture his multi-part modular manifold than the current invention needs to manufacture its unitary manifold plates. For example, *Benenati* requires machining highly accurate slots 10 and manufacturing highly accurate locking components (i.e., bushings 12). These additional steps and components are not required by the unitary manifold plates of the present

application. Consequently, the modular manifold method disclosed by *Benenati* is neither useful nor applicable for fast manufacturing of unitary manifolds, as disclosed and claimed in the current application.

During the personal interview on April 21, 2004, the Examiner took the position that the interlocking, modular manifold shown in FIG. 13 of *Benenati* is a unitary manifold. This position, however, is in direct contrast to not only the well-understood meaning of the term "unitary," but also to the express definition of "unitary" set forth by *Benenati*. As set forth above, the manifold shown in FIG. 13 of *Benenati* is clearly the exact opposite of unitary – it is made from a plurality of separate components.

During the personal interview, the Examiner also took the position that even if the manifold shown in FIG. 13 is not unitary, each individual modular component of the manifold is itself unitary. This position is of no moment and defies logic. The individual modular components in *Benenati* are not manifolds (or manifold plates) themselves, but rather are used to make a manifold when combined together. This is evidenced by *Benenati* consistently referring to its "manifold 1" as a different element from the modular components used to make the manifold (e.g., "members M, 11, 14").

Moreover, the individual modular components of *Benenati* do not meet the well accepted definition of a manifold (or manifold plate), nor do they function as a manifold (or manifold plate). As stated by *Benenati* himself, a "manifold" is "for distributing molten plastic material from a common injection port to the various cavities of a mold" and is "used for providing heated passages and conveying fluid resin from a common supply port to the nozzles feeding the cavities." U.S. Patent No. 5,352,109, col. 1, lines

6-8 and 12-14; *see also Benenati*, col. 1. lines 11-13 and 28-30. Merriam-Webster's Online dictionary also defines "manifold" as "a whole that unites or consists of many diverse elements" and "a pipe fitting with several lateral outlets for connecting one pipe with others." The individual modular components of *Benenati*, which are only useful when combined with other individual modular components, plainly do not meet any of these definitions for a manifold. In particular, *Benenati's* modular components do not distribute molten plastic material from a common injection/supply port to nozzles feeding mold cavities. Rather, these modular components only distribute molten plastic material from the common injection/supply port ("bushing 27") to other modular components ("members M"), *or* alternatively to the nozzles ("nozzles 2") from other modular components ("members M").

Other than using modular manifold pieces from inventory for building a multi-part, interlocking manifold, *Benenati* does not disclose manufacturing hot runner system components, placing them into inventory, accepting customer orders for hot runner systems, and removing the components from inventory for modifications or further manufacturing of the hot runner systems that correspond to specifications of customer orders. All of the currently pending claims, however, recite these method steps. In addition, the present claims now recite that these methods are either for: (1) unitary manifold plates, as opposed to multi-part manifolds like those disclosed by *Benenati*; (2) manifold plates having substantially the same shape throughout manufacturing; or (3) unitary manifold plates with a common melt inlet in communication with and perpendicular to one or more flow channels, which are in communication with the

nozzles. As a result, the presently claimed invention allows a customer a wide range of flexibility with respect to hot runner system configurations using unitary manifolds that do not leak, while providing a very fast manufacturing method for the hot runner system ordered by the customer.

Such an expedient manufacturing method has never been done before in the hot runner industry for unitary manifold systems. On the contrary, due to the customization and complex engineering associated with hot runner systems using unitary manifolds, it has traditionally taken 6-8 weeks at least, and frequently even longer, to engineer, manufacture, and assemble hot runner systems. Indeed, the traditional method for engineering, manufacturing, and assembling hot runner systems using unitary manifolds is to wait for a customer to place an order, and then completely engineer, manufacture, and assemble the customer's specified hot runner system from scratch. The engineering, designing, tooling, machining, and assembling involved in such a process takes several weeks, if not months, to complete. For obvious reasons, there has been a great demand in the hot runner industry for dramatically reducing the time it takes to engineer, manufacture, and assemble hot runner systems using unitary manifolds based on customers' specific design criteria. The present invention has satisfied this customer demand by engineering, manufacturing, and assembling such hot runner systems in a much shorter period of time – only a few days – than traditional methods, while still allowing customers flexibility in choosing their design parameters.

The above reasons for allowance over *Benenati* were conveyed to the Examiner during the personal interview on April 21, 2004. It is clear that *Benenati*, alone or in

combination with any other reference, does not anticipate or render obvious the present claims. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejections of the claims under 35 U.S.C. § 102. Applicant believes the present claims to be in condition for allowance, and earnestly request early notification of same.

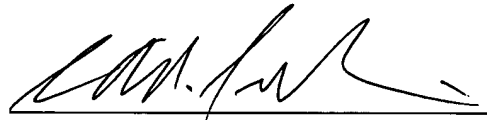
In addition to the rejection of the claims, the Examiner also made the Office Action "final." Applicant respectfully submits, however, that it was improper for the Examiner to make this Office Action "final." During the interview, the Examiner cited MPEP § 609(III)(B)(2)(a)(ii) to support the decision to make the Office Action "final." But, the section of the MPEP that the Examiner cited is not applicable to the present application, because that section applies only to references cited in an Information Disclosure Statement (IDS) filed *after* a first Office Action on the merits. In the present application, however, the IDS containing *Benenati* was filed together with a Request for Continued Examination (RCE) *before* a first Office Action on the merits. Indeed, it was this first Office Action on the merits following the Applicant's filing of the RCE and the IDS that the Examiner made "final." The MPEP makes clear in the section preceding the section cited by the Examiner that this is not permissible:

It would not be proper to make final a first Office action in a continuing application or in an application after the filing of a RCE if the information submitted in the IDS during the time period set forth in 37 CFR 1.97(b) is used in a new ground of rejection.

MPEP § 609(III)(B)(1). Consequently, the Examiner erred in making the February 24, 2004 Office Action "final," and Applicant respectfully requests that the Examiner withdraw the "final" designation.

If, for any reason, the Examiner is unable to allow the application on the basis of this amendment and feels that a telephone conference would help clear up any unresolved matters, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number listed below.

Respectfully submitted,
McDONNELL BOEHNEN
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A handwritten signature in black ink, appearing to read 'S.M. Sullivan', is written over a horizontal line.

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Dated: May 24, 2004

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